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Storage tanks and air conditioners and mobile homes are not usually listed among today's glamour industries. These classically stolid durable goods manufacturing titles do not bring to mind the whir of computers drives or the soft glow of visual displays. In 2 of the 3, however, it is exactly such whirs and glows that are driving productivity growth.

James D. York reports that in the fabricated plate work industry—makers of storage tanks, heat exchangers, and steam boilers—computer-aided design permits better design and product quality which, in turn, can mean less time spent trying to set up production flows and, once in production, less inspection and rework. The production processes themselves often take advantage of high technologies such as computer numerical controlled machine tools and computer automated welding systems. As a result, output per hour of labor input rose between 1982 and 1994, even though demand for the industry's output declined.

Paul V. Kern and Patricia S. Wilder find that the adoption of computer-assisted design and manufacturing systems has allowed multifactor productivity to increase even as new, more environmentally safe coolant gases and their associated compressor, seal, and blower technologies were adopted over the past 15 years. Kern and Wilder also point out another area, pre-production testing, in which computer-aided design systems can save significant savings in time and intermediate input costs.

The mobile homes industry, studied here by John G. Olsen, has experienced less than half the rates of labor productivity growth as the fabricated plate or the refrigeration and heating equipment industries. Part of the relatively modest gain can be attributed to the widely fluctuating demand for new housing, but low capital expenditures per worker and a largely inexperienced work force have also played significant roles.

Donald Fisk and Darlene Forte have submitted the last report in a series of studies of productivity growth in the Federal Government. The Federal Productivity Program provided 27 years worth of data relating the outputs of the Federal Government to the labor used to produce them. As a result of recent budget constraints, the program has been terminated.

Also in this issue are an International Report on Saudi Arabia by Alex Kronemer and Markeley Roberts' review of *Union Mergers In Hard Times: The View from Five Countries* by Gary N. Chaison.

Productive homework

When Roper Starch Worldwide recently asked 1,231 adults how much of their productive work—not counting thinking or light reading—they did at home, the mean response was 12 percent. When asked how much they would do if given the choice, the response was 21 percent. That percentage is higher among groups such as computer owners, Westerners, members of households earning $50,000 or more annually, and executive and professional workers. Persons in the last category, for example, report wanting to do nearly one-third of their productive work

Collective bargaining agreements

As Canice Prendergast states in her introduction to *What Happens Within Firms? A Survey of Empirical Evidence on Compensation Policies*, "The employment relation is perhaps the most important contractual relationship in the economy. The way in which this relationship translates worker preferences and capabilities into production affects the daily lives of all concerned."

After reviewing the fundamental human capital approach to wage analysis, Prendergast analyzes two strands of empirical literature that explain deviations from the human capital model in terms of incentives along one strand and the gradual revelation of workers' talents in the other. Incentives have long been a subject of economics, although there has been more refinement of theory than development of evidence about how changing rewards affects worker behavior, according to Prendergast.

The purest form of learning theory assumes that workers' productivity is determined by their time-invariant ability, which is revealed (and presumably rewarded) over time. Once again, however, a review of the literature finds the available empirical results difficult to interpret and finds little support for the idea in studies of the aggregate data.

In her conclusion, Prendergast calls for additional theoretical work toward identifying the empirical implications of plausible alternatives, and, more urgently, for collecting data on employment contracts themselves: "Put simply, it is extremely difficult to make progress in understanding the effects of the employment contract if the contract itself cannot be observed."

The Bureau of Labor Statistics maintains for public use a file of approximately 2,200 collective bargaining agreements. The file includes virtually all agreements in both private industry (other than railroads and airlines) and State and local government covering 1,000 workers or more. Visitors are welcome to examine agreements at the Bureau during working hours. Those unable to visit the office may obtain copies of agreements at cost. Up to 100 pages of agreements will be photocopied free of charge. For further information about the contracts file, write to the Bureau of Labor Statistics, Division of Compensation Data Analysis and Planning, Room 4175, Washington, DC 20212, or call (202) 606–6275.

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In June, we have scheduled articles on the Employment Cost Index, employment security, high-tech industries, and the impact of auto leasing on consumer surveys. □